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# Prejudice and Intergroup Attributions: The Role of Personalization and Performance Feedback

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We manipulated personalization and group performance feedback to examine their effects on intergroup attributions and prejudice. Following high or low levels of personalized contact with a typical out-group member, participants learned either that the out-group had generally succeeded or that the in-group had failed at the participant's task. Under high personalization and out-group success, participants exhibited less attributional bias in explaining the success of new out-group job applicants and less prejudice toward them than those under low personalization. By contrast, when one's in-group had failed, we found similar favorability toward in-group and out-group job applicants. Importantly, when ability attributions and friendliness were separately combined with subjective personalization, both combinations mediated the effects of manipulated personalization in reducing prejudice toward new out-group persons.

**KEYWORDS** attribution, feedback, personalization, prejudice

META-ANALYSES confirm that cooperative contact improves attitudes and behavior toward out-group members (Johnson, Johnson, & Maruyama, 1984; Miller & Davidson-Podgorny, 1987; Pettigrew & Tropp, 2000). They also support the view that personalized contact augments the beneficial effect of cooperative interaction (Johnson et al., 1984; Miller & Davidson-Podgorny, 1987). By *personalization*, we mean interpersonal interactions that elicit self-disclosure (Miller, 2002), promote self/other comparisons (Brewer & Miller, 1984), and induce empathy (Batson et al., 1997;

Galinsky & Moskowitz, 2000). Thus, we conceptualize personalization as more than mere receipt of individuating information, which can be provided by a third party in the absence of

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any direct social interaction. Here, however, we focus only on one of its components: the prejudice-reducing effects of self-disclosure by the out-group person with whom one is interacting. More important, we examined how it affects attributional bias and how such bias mediates prejudice under two key conditions that are likely to elicit differential attributional distortion: out-group task success and in-group task failure.

### **Personalization and the relation between the decategorization and mutual intergroup differentiation models**

There are a number of reasons for suspecting that self-disclosure during contact with an out-group member will reduce prejudice. Self-disclosure induces trust, which in turn reduces the anxiety and discomfort that often characterize intergroup settings (Ensari & Miller, 2002; Stephan & Stephan, 1985). In addition, it has motivational effects, eliciting an inclination to reciprocate the observed self-disclosure (Miller, 2002). Finally, it can promote perceptions of similarity and familiarity, and thereby permit better processing of individuating information about persons irrespective of their social category (Rothbart & John, 1985; Wilder, 1986). These processes simultaneously provide an opportunity to disconfirm negative stereotypes about the out-group and break down the monolithic perception of them as a homogeneous unit (Cook, 1978; Wilder, 1978). Consequently, personalized contact can augment the beneficial effect of cooperative contact (Bettencourt, Brewer, Croak, & Miller, 1992; Miller, Brewer, & Edwards, 1985).

In accord, Brewer and Miller's Decategorization Model argues that out-group contact will most effectively reduce prejudice when interactions are person-based rather than category-based (Brewer & Miller, 1984; Miller & Harrington, 1992). However, an alternative perspective on contact, the Mutual Intergroup Differentiation Model, asserts that 'favorable contact with an out-group member must be

defined as an intergroup encounter in order for out-group evaluations to be successfully changed' (Brown & Turner, 1981; Hewstone & Brown, 1986, p.18). In this view, social category cues must remain salient and individuals in the contact setting must see each other as representative of their group in order for positive contact effects to extend to other members of that social category (Brown & Turner, 1981). Hewstone and Brown (1986) further argued, however, that personalized interaction during intergroup contact gives the out-group member an individual identity. This creates a perception of atypicality. That out-group member is no longer seen as representing the category. Consequently, in their view, a good experience with that out-group person cannot improve attitudes toward other members of that out-group.

Recently, we integrated these two seemingly opposing models. We proposed that a greater reduction in out-group prejudice is achieved under the interactive effects of both personalization and high out-group salience (Ensari & Miller, 2002). In confirmation, reduced prejudice toward new out-group members was greater when personalization experimentally co-occurred with high typicality or salience of group membership, by comparison with their independent effects.

Here we argue that personalized contact has important implications for intergroup attributions, as well as prejudice. Consequently, we extend the Ensari and Miller model to examine attributions, as well as prejudice. As indicated, a personalized interaction with an out-group member may elicit a subtyping process (Hewstone, 2000). Such subtyping may extend to attributional processes. That is, rather than altering attributional stereotypes about the out-group as a whole, personalized contact may induce causal attributions based on the unique attributes of that particular out-group person. If that out-group person, however, is highly typical of her group, it is more difficult to explain her counterstereotypical behavior in terms of situational demands or individual exceptions to the rule.

## Intergroup attributional bias

The *ultimate attribution error* reflects the expression of ethnocentric bias in the attributions made to explain outcomes obtained by in-group and out-group members (Pettigrew, 1979). Negative in-group and positive out-group outcomes are attributed to situational factors, whereas positive in-group and negative out-group outcomes are attributed to causes seen as internal. These dynamics protect the esteem of the in-group and cast the out-group in a bad light (Hewstone & Jaspars, 1984; Pettigrew, 1979) thereby augmenting a positive self-identity and insulating negatively stereotyped views of the out-group (Hewstone, 1990; Pettigrew, 1979).

### *Two interesting cases: Out-group success and in-group failure*

Some behaviors, such as a successful act by an out-group member or an unsuccessful act by an in-group member, are inconsistent with expectations. Conceptually, these behaviors are not only more interesting, but they involve more complex cognitive and motivational processes. Therefore, in exploring the attributional consequences of manipulating performance feedback, we examined only the reactions to these two types of outcomes (i.e. out-group success and in-group failure) rather than using a more complete factorial design.

The psychological processes involved in the perception of out-group success and in-group failure differ. Out-group success not only surprises people, but it can disconfirm negative stereotypes of the out-group. The impact of out-group behaviors that violate such negative stereotypes can be diluted, however, by attributing them to situational influences (such as temporary high motivation, luck) rather than to dispositional attributes (Hewstone, 1989; Pettigrew, 1979). When an out-group is successful, we predicted an interaction. That is, under conditions wherein the out-group generally was successful, we expected those liberals who experienced a more personalized contact with a typical conservative to exhibit less prejudice toward other conservatives, and make higher

ability attributions for their success, than those in the low personalization condition. By contrast, we expected attitudes and attributions toward other liberals (in-group members) to remain uniformly positive and undifferentiated in the high and low personalization conditions, thereby yielding our predicted interaction.

On the other hand, a negative evaluation of one's in-group can be perceived as a threat that calls for some coping response (Ellemers, Spears, & Doosje, 2002). One way to protect one's individual self from such threat is to distance one's self from the in-group (e.g. exhibit higher perceptions of in-group heterogeneity, Doosje, Spears, Ellemers, & Koomen, 1999, less in-group favoritism, Ellemers, Van Rijswijk, Roefs, & Simons, 1997, and less in-group identification, Ellemers, 1993) and associate instead with the out-group (Mullen, Brown, & Smith, 1992). Consequently, members of a group that receives in-group failure feedback will typically constrain expression of differential prejudice toward in-group and out-group members. Accordingly, we expected no differential prejudice on either evaluative or attributional measures in this condition. We thought this lack of differentiation to be particularly likely because the within-subjects portion of our design allowed participants to comparatively evaluate in-group and out-group job applicants. Under these conditions, we expected the protective motivation generated by strong general evidence of in-group failure to wipe out any potential benefit from personalization.

## Mediators of prejudice

Causal attribution has long been thought to guide decision and action (e.g. Kelley, 1973). Most research has focused on the first connection in the mediational chain that sees attributions as the causal link between antecedent stimuli and subsequent action. Thus, numerous studies examine attributions as dependent measures. Further supporting this mediational chain, some studies manipulate attributions and show predicted effects on affective reactions (Weiner, Russell, & Lerman, 1979; Russell, &

McAuley, 1986). A few studies correlationally have examined both links within a single experiment (e.g. Islam & Hewstone, 1993; Town & Harvey, 1981; Yarkin, Harvey, & Bloxom, 1981). Nevertheless, despite the fact that attributions have frequently been invoked in explanations of prejudice and bias (Hewstone, 1989) we could not find a single instance of such mediational evidence.

Although many attributional factors may play a role in mediating prejudice, we focus specifically on two potential consequences of personalization: attributions of friendliness and attributions of ability. Substantial evidence supports the view that interpersonal perceptions of friendliness are conceptually independent from perceptions of ability. The five-factor descriptive model of personality (Costa & McCrae, 1992) is now widely accepted (McCrae & John, 1992). Important here is that the research supporting this structural organization is not merely based on self-reports on personality scales. Much of it rests on factor analyses of the meaning of words, or the language of personality descriptors (Goldberg, 1990; Norman, 1967). Another very substantial supporting component emerges from interpersonal perceptions or judges' ratings of others (Botwin & Buss, 1989). Viewed most broadly, then, the five-factor model provides an organization of human experience—perceptions of inter- and intrapersonal attributes. Two of its factors (Extraversion and Agreeableness) are more closely related to interpersonal friendliness, whereas another pair (Conscientiousness and Intellect) is more closely associated with perceptions of ability. Correspondingly, based on Asch's (1946) research on person perception, Fiske, Xu, Cuddy, and Glick (1999) argue that warmth (sociable and agreeable traits) and competence (task performance and intellectual traits) are the two independent dimensions that underlie many outgroup stereotypes.

### ***Friendliness as a mediator***

One important aspect of personalized contact is its link to friendliness—perceiving the out-group member with whom one has had personalized contact as friendly. Contact at the

personal level augments perceived friendliness at the intergroup level (Cook, 1984; Wilder, 1984). Receipt of intimate information, which is usually shared only with friends, is rewarding and valued more (Lynn, 1978; Petty & Mirels, 1981). It implies being trusted by the discloser, thereby creating a positive attitude toward her (Altman & Haythorn, 1965; Fitzgerald, 1963).

Such friendship with an out-group member reduces prejudice, and creates more positive attitudes toward other out-group members (Pettigrew, 1997). Work on the extended contact hypothesis further elaborates the importance of friendliness, proposing that mere 'knowledge that an in-group member (other than self) has a close relationship with an out-group member can lead to more positive intergroup attitudes' (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997, p. 74). Consequently, we propose that personalized contact with an out-group member not only yields subjective experiences of uniqueness and intimacy, but also, induces perceptions of friendliness. Taken together, we expect these subjective states to promote favorable attitudes toward other out-group members. In sum, then, we predicted that in the high personalization condition participants would perceive the self-information disclosed by the out-group confederate as indeed more personal and unique, and simultaneously perceive her as friendlier than those in the low personalization condition. In turn, we expected the combination of these effects to mediate reduced prejudice toward new members of the out-group category.

### ***Internal ability attributions as a mediator***

The internal attribution of ability as a mediator of prejudice is important because its invocation as an explanation for out-group success can be interpreted as a sign of reduced intergroup prejudice (Pettigrew, 1979). One of the effects of personalization is that it invokes better processing of individuating information about persons irrespective of their social category (Rothbart & John, 1985; Wilder, 1986), thereby increasing the potential impact of information about out-group success. Personalization can also decrease the accessibility of stereotypes

that interfere with internal ability attributions for successful out-group performance (Galinsky & Moskowitz, 2000). Consequently, we expected that subjective perceptions of ability would combine with subjective personalization effects to mediate reduced prejudice toward new out-group members.

## Overview of the study

This experiment is the first to explore the attributional consequences of personalized interaction. Within a single design, it examines the impacts of (a) personalization and (b) information about the general success or failure of out-group or in-group members on a problem-solving task that the participant could not solve without the out-group confederate's help. It assesses their effects on both prejudice toward and, more important, attributions made to explain the success of new out-group and in-group members in having obtained a university job.

During an interview task, a confederate posed as an out-group member (a conservative). In the high personalization condition, she voluntarily self-disclosed personal information that was absent in the low personalization condition. To preclude the possibility that she could be seen as an exception and thereby undercut the bearing of our manipulations on attitudes and attributions toward new out-group members, we ensured that she was seen as typical of her group while keeping her category membership salient. Then, after participants had worked on a problem-solving task that required the out-group confederate's help, they learned either that the out-group (conservatives) had generally succeeded at that task or that their in-group (liberals) had generally failed. Key dependent measures were: (a) participants' evaluations both of new individual in-group and out-group job applicants who had successfully obtained university employment, but more important here, (b) the attributions for having successfully obtained that job. By giving success/failure feedback about the generally positive performance of the out-group or the generally poor performance of the in-group rather than individual

out-group or in-group performance, we reduced the relevance of subtyping as an explanation for the unexpectedness of these respective outcomes.

## Method

### *Participants and design*

Forty-three politically liberal undergraduates, 36 females and 5 males, in the Introductory Psychology course at the University of Southern California participated in partial fulfillment of their course requirement. Two were later removed from analyses due to suspicion.

The design was a 2 (high vs. low personalization)  $\times$  2 (performance feedback: in-group failure vs. out-group success)  $\times$  2 (group membership of the job applicants: in-group vs. out-group) mixed design with the first two factors manipulated between, and the third within-subjects.

### *Procedure*

After the participant had arrived, a female confederate signed in as a second participant. The female experimenter seated them opposite each other at a table and asked them to complete a brief background questionnaire in which they self-categorized themselves along the dimensions of political orientation (liberal vs. conservative), age, gender, major, year in school, and socioeconomic status. Only those who identified themselves as liberals were allowed to continue. Conservatives or independents were debriefed and released.

We imposed several contextual features in all conditions. First, the confederate always categorized herself as a conservative. Second, the experimenter always left the confederate's completed questionnaire on top in a readable position to ensure throughout that the participant could easily see that the confederate considered herself to be a conservative. Third, participants were told that they would engage in three separate studies that respectively consisted of a communication task, a cooperative problem-solving task, and an evaluation task. In the communication task (the interview), though their roles were ostensibly random, all

participants were made the interviewer; the confederate was always the interviewee. Fourth, after their role assignment but prior to the start of the communication task (wherein personalization was manipulated), the experimenter asked the participant and the confederate to introduce themselves to each other, suggesting that the confederate go first. The confederate always established herself as a typical conservative by stating the pretested characteristics used in Ensari and Miller (2002) (e.g. 'I am a conservative person', 'My father is a lawyer', 'I work for the Student Community of Young Republicans in my spare time'). After the confederate's introduction, the participant then provided information about herself. Note that whatever the variation in the information given by the participants, it could not co-vary systematically with the experimental conditions because they had not yet been introduced.

In addition to establishing that the confederate was a typical conservative, we also sought to maintain the salience of her out-group category membership as another constant feature of the experiment. In all conditions we then told the participants that we were especially interested in their political orientation and therefore, in order to easily identify them, they were asked to wear name badges throughout the experiment. The 3 in. × 4 in. badges contained the word *liberal* (in blue) for the participant, and *conservative* (in red) for the confederate. In addition, in the interview task (described below) that was used to implement the personalization conditions, the confederate always made the Student Association of Young Republicans salient. In the high personalization condition, she reminded the participant of her political identity by disclosing that one of her hobbies was part-time work in the Student Association of Young Republicans. In the low personalization condition she made this category salient by naming it in response to the interview question about prominent student organizations on campus.

**Manipulation of personalization** After the participant and confederate had introduced themselves and had exchanged the individuating

information described above, we reiterated that the research was concerned with how people from different perspectives work together on a communication task. The experimenter then gave the real participant a list of five interview questions, the last of which had four subparts. She was instructed to use them as an interviewing guide and to engage in as natural conversation as possible for 10 min. As taken from Ensari and Miller (2002), this form included either five personal (high personalization condition), or five impersonal questions (low personalization condition). The distinct interview schedules for personalization conditions clearly imposed differential constraint on the levels of self-disclosure provided by the confederate. To further augment the comparative impact of the personalization conditions, however, before starting the interview the experimenter publicly told the confederate, 'anything you wish to tell about yourself is okay—it is completely up you'. We thereby encouraged the participant to view the act of disclosure (or lack of it) as voluntary (despite the differential constraints implicit in the interview questions) and hence, feel entrusted with personal information in the high personalization condition. The experimenter then left the room.

In the high personalization condition, the confederate disclosed personal, and unique information about herself. Specifically, in response to the last question, requesting a description of two good and two bad things about herself, she stated: 1. I work part-time in a company so that I can give my savings to my younger brother because he doesn't have enough money to go to school; 2. The happiest news I had this year was that my father decided to become engaged because after my mother's death he wasn't happy with his life and felt lonely all the time; 3. The most embarrassing moment in my life was when a professor caught me cheating during an exam; 4. I have made only a few good friends during the past few years, and therefore, I feel lonely most of the time. These four pieces of information were balanced for level of intimacy and valence. As previously reported (Ensari & Miller, 2002) both the comparative extremity and the

intimacy of the positively and negatively valenced responses did not reliably differ in their magnitude of deviation from the scale midpoints.

In the low personalization condition, the confederate responded to the interview questions with neutral impersonal statements that included no additional unique, individuating information beyond that which had previously been provided in all conditions as part of the participant's and confederate's respective introductions of self to one another. Specifically, the questions and responses only concerned general aspects of campus life.

**Manipulation check of personalization** After the communication task, we checked the personalization manipulation. Participants indicated the extent to which the information revealed by the confederate was personally unique, personal, and unexpected. They also rated her friendliness, using 7-point scales for all items. Higher scores indicated greater personalization and friendliness. We used these scores in the mediational analyses.

**Manipulation of out-group success vs. in-group failure** The cooperative problem-solving task was introduced as allegedly assessing the conditions under which cooperation produces beneficial outcomes. Actually, it provided a basis for the manipulation of out-group success versus in-group failure. The participant and confederate were told that they would work cooperatively and train each other to solve two cognitive ability problems. The participant received the first problem, along with instructions that explained the solution and asked her to teach the confederate how to solve it. Next, the confederate taught the participant how to solve the second problem. To ensure that the participant and the confederate were mutually dependent on each other and worked cooperatively, both problems were chosen to be too difficult to solve without help from the other. After completing the cooperation task, participants indicated on 7-point scales how well they had worked together and the degree to which they had worked cooperatively.

To manipulate performance feedback the participant and confederate were given a summary of the results obtained by previous participants who allegedly had worked on another version of the problem-solving tasks completed by the participant and confederate. They were asked to review it and to complete an evaluation form that would be helpful in interpreting research results from these experiments. The questions in this evaluation form, as described in the next section, were used not only as a manipulation check of feedback, but also as attributional measures for subsequent analyses of the mediating role of attributions in reducing prejudice.

The two conditions of the performance feedback were out-group success and in-group failure. The performance feedback manipulation in this experiment only included group-based feedback. In the out-group success condition, the result summary page included two pieces of information: the first piece of information was that these previous participants were conservatives (i.e. out-group members). The second was that the average performance score of these conservative participants was 80%, which indicated that they had in general succeeded on a highly similar task. In this condition, this summary page did not include any information with respect to in-group performance.

In the in-group failure condition, on the other hand, this result summary which also included two pieces of information indicated that these previous participants were liberals (i.e. in-group members), and that their average performance score was 20% which indicated that these in-group participants had in general failed. Again, this page did not give any information about out-group performance.

**Manipulation check on performance feedback** We used a conceptual check on the feedback manipulation, assessing whether it had elicited the attributional processes implicit in the ultimate attribution error. Using 7-point scales with higher scores indicating more of the attribute, participants indicated the degree to which the group's performance was a result of



(a) their ability; (b) their effort; (c) luck; (d) a consequence of the task. Separate from the previously described measure of the confederate's uniqueness and friendliness, three other items evaluated the group's friendliness ('how friendly are these participants?'), trust ('to what degree are they trustworthy?'), and similarity ('how similar are you to these participants?') We told the participants that because they did not know these people their best guess was appropriate.

**Dependent measures** The participant was told that the purpose of the third and final study was to examine how non-faculty members evaluate the outcome of freshman applicants who had applied for university employment (Jackson, Sullivan, & Hodge, 1993). We gave the participant job applications of a liberal (in-group) and a conservative (out-group) applicant (both female), both of whom had been accepted for employment. We told her to examine the materials carefully before evaluating them. The political orientation of the applicants appeared under the *skills and extracurricular activities* section of the form. To manipulate in-group/ out-group membership of the applicants, one was depicted as having served five years at the Student Liberals Community whereas the other had similarly volunteered for the Organization of Young Republicans Conference. We constrained all other information to be sparse so as to provide little basis for subtyping the individual applicants. We counterbalanced the order of the in-group and out-group application forms and the descriptions of all other information about the applicants. This latter constraint meant that (between-subjects) there were actually two in-group and two out-group applicants. As dependent measures, participants first separately indicated the importance of ability, effort, luck, and task characteristics (attribution measures) in explaining the applicant's employment success. Then, as a prejudice measure, they used 7-point scales (with higher scores indicating more of the attribute) to rate the degree to which each applicant was qualified, friendly, and trusting.

## Results

### *Check of contextual levels of typicality, salience, and cooperation*

Although typicality and salience were intentionally made constant across the conditions, we sought to induce high levels of each. After the communication task, participants responded to three items that assessed the degree to which they saw the confederate as a typical conservative: typical; representative of her political group; behaved like a typical member of her group on 7-point scales (1 = 'not at all', 7 = 'extremely'). When averaged ( $\alpha = .72$ ), the mean typicality ( $M = 4.97$ ) exceeded the scale midpoint (4.0) ( $t(40) = 6.55, p < .0001$ ), indicating that the out-group confederate was indeed seen as a typical conservative.

To assess the level of social category salience, participants indicated at the end of the experiment the degree to which their political orientation had influenced their evaluations of the confederate on a 7-point scale (1 = 'not at all', 7 = 'extremely') (Lalonde & Silverman, 1994). If participants directly acknowledged that their own political affiliation had influenced their evaluation of the confederate, it implies a salient awareness of the confederate's alleged political position. Confirming the salience of political orientation, participants' indication of the degree to which their own political affiliation had intruded into their evaluations ( $M = 5.48$ ) exceeded the scale midpoint (4.0) ( $t(26) = 5.41, p < .000$ ).

After the cooperative problem-solving task, the participants indicated on 7-point scales that they had worked well and cooperatively on it. When averaged ( $r = .57$ ), the mean of 5.73 exceeded the scale midpoint (4.0) ( $t(38) = 7.88, p < .000$ ). Analyses of the combined typicality, salience, and cooperative problem-solving measures in a 2 (personalization)  $\times$  2 (performance feedback) analysis of variance (ANOVA) yielded neither main effects nor an interaction ( $ps > .05$ ).

### *Manipulation checks*

**Personalization** Participants indicated how personally unique, intimate, and unexpected

the information revealed by the confederate was, using 7-point scales ranging from 'not at all' (1) to 'very' (7). We combined the three measures to create a subjective personalization measure ( $\alpha = .91$ ). A 2 (personalization)  $\times$  2 (performance feedback) ANOVA revealed only a main effect of personalization ( $F(1, 37) = 90.59, p < .000, \eta^2 = .71$ ). As expected, the revealed information was seen as more personalized ( $M = 5.85$ ) in the high personalization case than in the low personalization condition ( $M = 2.05$ ).

Participants evaluated the degree to which they would like to be friends with the confederate. A (2  $\times$  2) ANOVA revealed a trend toward a main effect ( $F(1, 37) = 3.07, p = .07, \eta^2 = .08$ ), suggesting that the confederate was viewed as more desirable as a friend in the high ( $M = 5.05$ ) as compared with the low personalization condition ( $M = 4.42$ ).

**Out-group success and in-group failure** To form a composite external attribution measure, luck and task attributions were combined ( $r = .36, p < .05$ ). The other attribution measures were not correlated, and therefore analyzed separately.

Three parallel 2 (personalization)  $\times$  2 (performance feedback) ANOVAs revealed only main effects of performance feedback: for ability ( $F(1, 37) = 12.20, p < .01, \eta^2 = .25$ ), for effort ( $F(1, 37) = 9.80, p < .01, \eta^2 = .21$ ), and for composite external attributions ( $F(1, 37) = 7.38, p < .01, \eta^2 = .17$ ). Participants in the out-group success condition more strongly attributed that performance to ability and effort ( $M = 5.25$  and  $M = 5.45$ , respectively) than did those attempting to explain unsuccessful in-group performance ( $M = 4.19, M = 4.38$ , respectively). Further, the latter group more strongly invoked external factors to account for their in-group's failure ( $M = 4.62$ ) than did those attempting to explain out-group success ( $M = 3.70$ ). These comparative effects confirm a successful manipulation of out-group success versus in-group failure. Participants made out-group favoring attributions—by attributing out-group success to ability, and in-group favoring attributions—by attributing

in-group failure to luck. By contrast, and as anticipated, the group evaluative measures of the friendliness, trust, and similarity of the in-group (in the in-group failure condition) or the out-group (in the out-group success condition) yielded no effects ( $p > .05$ ). This discriminative validity makes sense in that these latter measures were unrelated to the group performance feedback and are not further discussed.

### ***Prejudice toward new out-group and in-group members***

The degree to which each applicant was qualified, friendly, and trusting were combined to form composite scores for the in-group ( $\alpha = .72$ ) and the out-group applicants ( $\alpha = .74$ ). A 2 (personalization)  $\times$  2 (feedback)  $\times$  2 (in-group vs. out-group applicant) ANOVA with repeated measures on the last factor yielded a three-way interaction ( $F(1, 36) = 5.66, p < .05, \eta^2 = .14$ ), and a two-way interaction between the applicant's group membership and personalization ( $F(1, 36) = 4.36, p < .05, \eta^2 = .11$ ). To fully understand these interactions, we separately analyzed the out-group success and in-group failure feedback conditions.

**Out-group success feedback condition** The 2 (personalization)  $\times$  2 (in-group vs. out-group applicant) ANOVA yielded an interaction ( $F(1, 18) = 6.52, p < .05, \eta^2 = .27$ ), and a main effect of personalization ( $F(1, 36) = 4.68, p < .05, \eta^2 = .21$ ) (see Figure 1, upper panel). Supporting our predictions and the Personalization Model (Brewer & Miller, 1984; Ensari & Miller, 2002), participants who examined the results summary of successful out-group members exhibited less prejudice toward new out-group applicants under high ( $M = 5.23$ ) versus low personalization ( $M = 4.10$ ) ( $F(1, 18) = 16.09, p < .01, \eta^2 = .47$ ). Evaluations of in-group applicants, however, were equally favorable in both the high ( $M = 4.88$ ) and the low personalization conditions ( $M = 4.90; F(1, 18) = .95, p > .05, \eta^2 = .00$ ). This result is consistent with our predictions and with the results of Ensari and Miller (2002), showing that under out-group success the participants evaluated the in-group applicants similarly irrespective of the personalization manipulation.

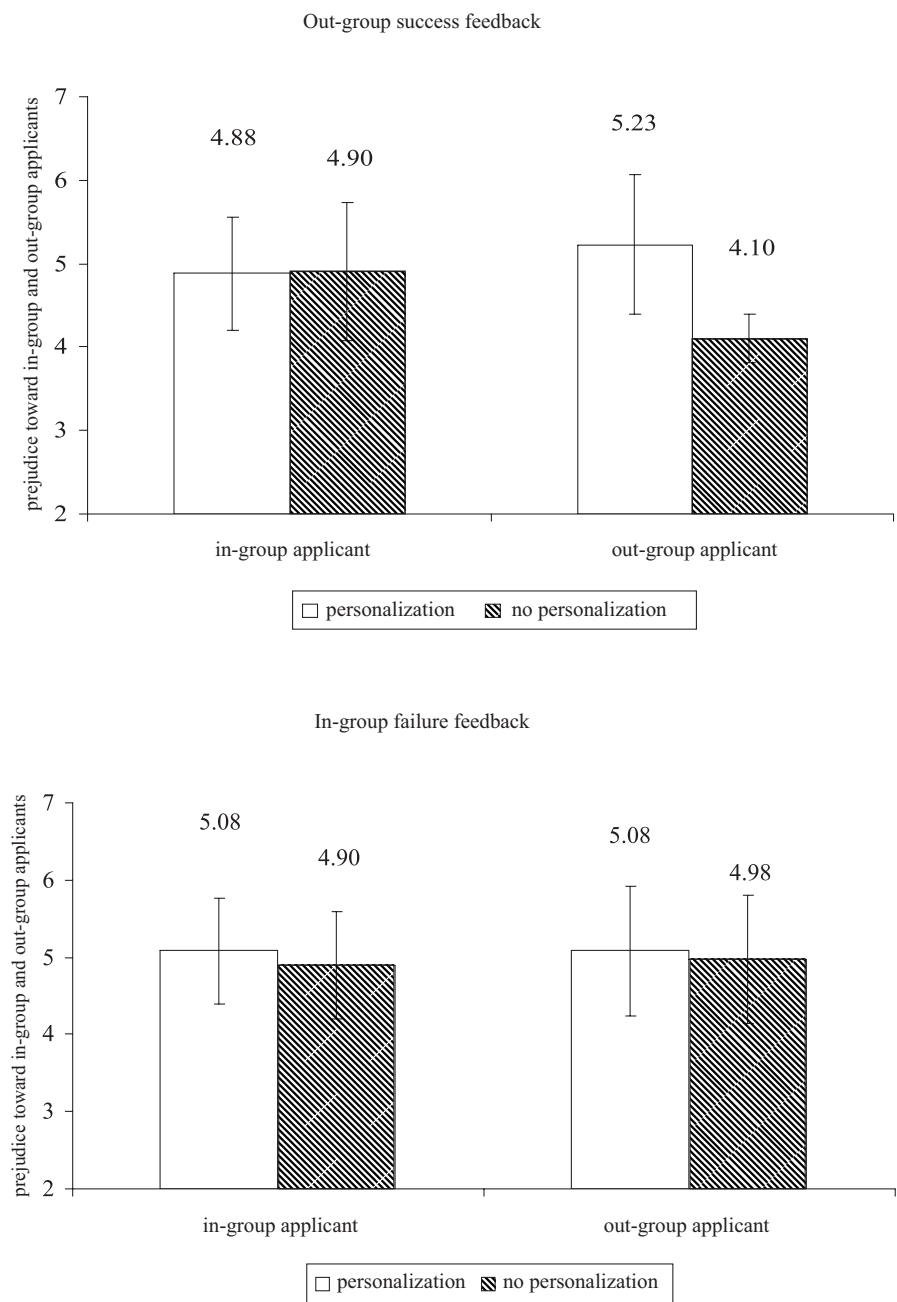


Figure 1. Mean prejudice toward in-group and out-group applicants in the out-group success feedback condition as a function of personalization (upper panel). Mean prejudice toward in-group and out-group applicants in the in-group failure feedback condition as a function of personalization (lower panel). Higher scores indicate less prejudice.

Thus, the personalization main effect is attributable to the out-group applicants. Finally, there was no main effect of applicant ( $F(1,18) = 1.00, p > .05; \eta^2 = .05; M = 4.66$  for the in-group applicant, and  $M = 4.89$  for the out-group applicant).

**In-group failure feedback condition** The  $2$  (personalization)  $\times 2$  (in-group vs. out-group applicant) ANOVA yielded neither an interaction nor main effects in the in-group failure feedback condition ( $p > .05$ ). As expected, under the in-group failure condition participants exhibited the same level of favorability in their evaluations of the in-group and out-group applicants (see Figure 1, lower panel). Those who had received in-group failure feedback failed to exhibit differential prejudice toward out-group and in-group applicants.

#### *Attributional bias toward new in-group and out-group members*

We examined participants' attributions for the success of the new in-group and out-group applicants in obtaining jobs. Luck and task attributions were combined to create a composite external attribution measure ( $r_s = .63$  and  $.73$  respectively for the in-group and out-group applicants). Ability and effort attributions were uncorrelated, and thus, analyzed separately.

We expected ability attributions to exhibit the same pattern as the prejudice measures. The  $(2 \times 2 \times 2)$  ANOVA of attributions of ability revealed a three-way interaction ( $F(1, 36) = 5.61, p < .05, \eta^2 = .14$ ), and a main effect of personalization ( $F(1, 36) = 5.45, p < .05, \eta^2 = .13$ ). Again, we analyzed responses in the out-group success and in-group failure feedback conditions separately.

**Out-group success feedback condition** Despite the absence of a two-way interaction between personalization and the applicants' group membership ( $F(1, 18) = 2.37, p = .14, \eta^2 = .12$ ), we performed additional analyses on the ability attributions because theory suggested a specific a priori hypothesis (Rosenthal & Rosnow, 1985). Participants who had previously received

feedback indicating out-group success more strongly attributed the out-group applicants' success to ability in the high ( $M = 5.60$ ) than in the low personalization condition ( $M = 4.30$ ) ( $F(1, 18) = 14.49, p < .01, \eta^2 = .45$ ) (see Figure 2, upper panel). That is, when out-group members had previously succeeded on a task that the participant could not perform correctly without the out-group confederate's aid, personalization increased the tendency to give credit for the out-group applicants' success in attaining a job (i.e. greater ability attributions). By contrast, in the ability attributions made for the in-group applicants, this difference disappeared ( $M = 5.60$  and  $M = 5.30; F(1, 18) = .40, p > .05, \eta^2 = .02$ ). Participants made similarly favorable attributions for the job success of new in-group applicants. These results parallel those for the prejudice measure.

**In-group failure feedback condition** A  $2 \times 2$  ANOVA of the ability attributions made in the in-group failure feedback condition yielded no reliable effects ( $p > .05$ , see Figure 2, lower panel). When the in-group had failed, participants gave credit (i.e. high ability attributions) for both out-group and in-group applicants' job success.

**Other attributional measures** The analyses of the external attribution and effort measures did not reveal any effects. We consider these null effects in the Discussion section.

#### *Mediational analyses*

Earlier we noted that perceptions of friendliness or sociability are conceptually distinct from perceptions of ability. We expected that personalization would elicit both types of subjective responses. In line with their conceptual independence, however, we anticipated distinct mediational roles for subjective perceptions of friendliness and ability. Therefore, to account for the prejudice-reducing effect of personalization we examined the mediational roles of subjective personalization when separately combined with (a) perceived friendliness of the confederate and (b) with ability attributions for the out-group's success. Note that our concern

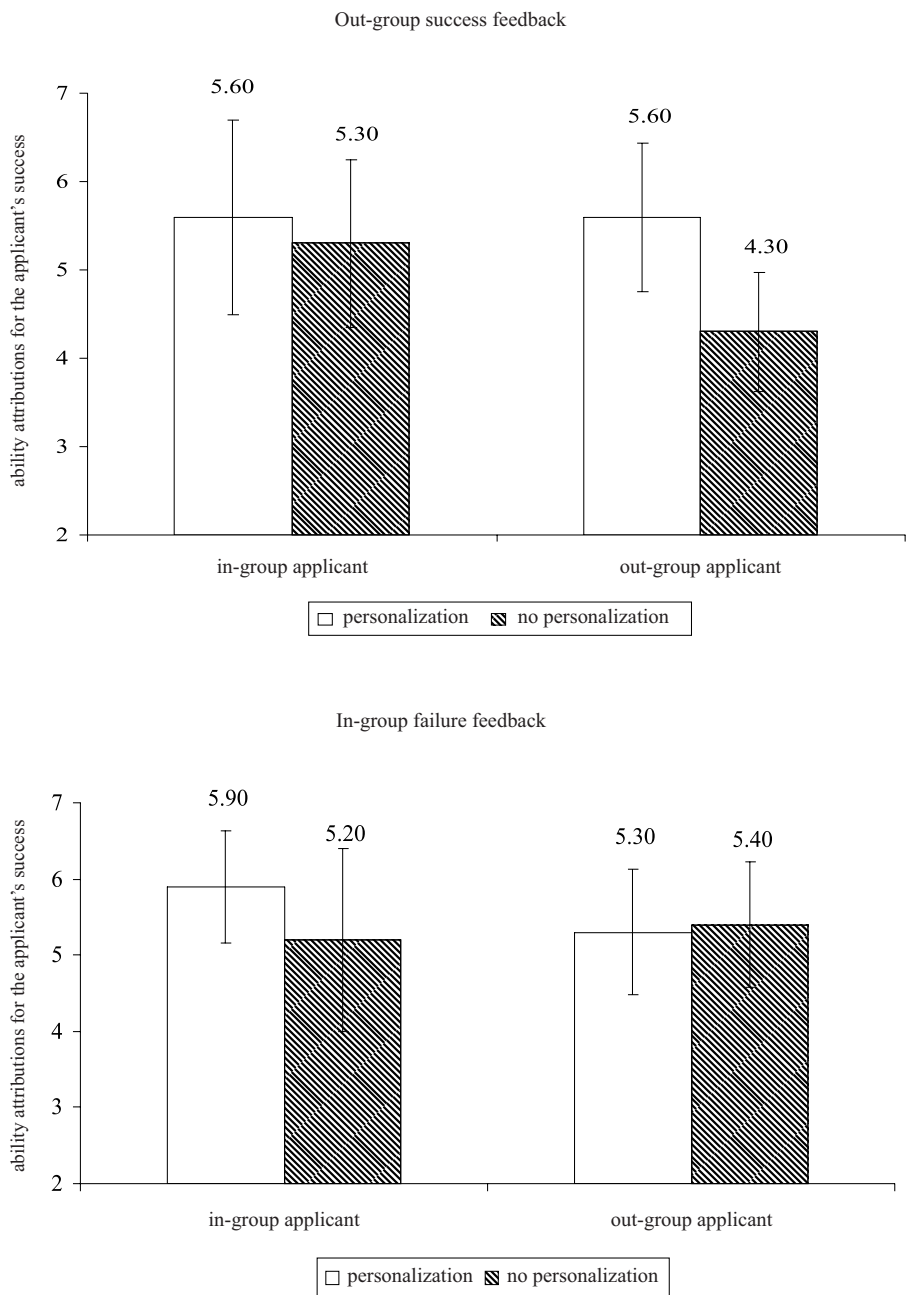


Figure 2. Mean ability attributions made for in-group and out-group applicant's job success in the out-group success feedback condition as a function of personalization (upper panel). Mean ability attributions made for in-group and out-group applicant's job success in the in-group failure feedback condition as a function of personalization (lower panel). Higher scores indicate less attributional bias.

here is with the evaluations of new out-group members—the applicant files.

**Mediational role of personal information and friendliness** The friendliness measure was the degree to which the out-group confederate was perceived as friendly after the communication task. Then, the subjective personalization and friendliness measures were transformed to z-scores, and combined by taking their average ( $\alpha = .48$ ). This combination, called *personal/friendliness*, was treated as a mediator.

We then performed a series of mediational analyses of prejudice toward the out-group applicants by applying Judd and Kenny's (1981) four-step regression equations. Confirming our previously presented manipulation check analyses, the regression of the composite personal/friendliness measure (the mediator) on personalization (the independent variable) showed that participants perceived the disclosed information as more personal, and the confederate as more friendly in the high than the low personalization condition ( $F(1, 39) = 36.19, p < .001, R^2 = .48$ , standardized beta =  $-.69$ ). Next, regression of the out-group evaluation on the independent variable confirmed our previously reported ANOVA effect of manipulated personalization on prejudice, indicating less prejudice against the out-group applicants in the high personalization condition than in the low personalization condition ( $F(1, 38) = 5.36, p < .05, R^2 = .12$ , standardized beta =  $-.35$ ). The third step of the mediational analysis showed that with the independent variable entered simultaneously in the equation, the personal/friendly measure influenced the participants' evaluations of the out-group applicants ( $F(2, 38) = 5.02, p < .05, R^2 = .12$ , standardized beta =  $.34$ ). After the insertion of the personal/friendly measure into the equation, the direct effect of the independent variable on prejudice was no longer significant ( $p > .05$ ). Sobel's (1982) procedure for testing the significance of the indirect mediational relationship showed a reliable change in the beta ( $z(38) = -2.17, p < .05$ ). Thus, these analyses suggest that the combined subjective experience of the confederate's personal

information and friendliness mediated the effect of manipulated personalization on prejudice toward new out-group members, the out-group job applicants.

Additional analyses show that when taken alone, neither subjective personalization nor friendliness by itself mediated the effect of personalization on prejudice. Separately regressing prejudice on subjective personalization and on friendliness showed neither a direct link between subjective personalization and prejudice ( $F(1, 38) = 3.72, p > .05$ ), nor between friendliness and prejudice ( $F(1, 38) = 2.90, p > .05$ ). Thus, these results further support the argument that it is the combination of both subjective personalization and friendliness that mediates the effect of personalization on prejudice.

**Mediational role of personal information and ability attributions** We next examined the mediational role of ability attributions in reducing prejudice. We sought to ensure that the subjective perceptions of ability were both methodologically and conceptually distinct from the measures of prejudice. Therefore, although the attributions that participants had made about the success of the job applicants served as one of our two key dependent measures (evaluations of them being the other) we did not use these attributions in our mediational analyses. As previously argued, these latter attribution measures can be viewed, along with adjective evaluative measures, as co-varying symptoms of prejudice. Moreover, they were spatially adjacent in the dependent measures packet. To avoid this conceptual and methodological contamination, we used instead the attributions that participants had made to explain the feedback indicating general success of the out-group or failure of the in-group respectively in solving the types of problems that the participant could not solve without the confederate's help.

We expected subjective personalization (separate from its link with friendliness, but in combination with ability attributions) to mediate the link between manipulated personalization and reduced prejudice. To examine

this model we first separately transformed to *z*-scores both the subjective personalization and the ability attribution measures regarding the out-group's general problem-solving success. We then combined them into two composites and averaged them ( $\alpha = .41$ ). This combination, called *personal/ability*, was treated as a mediator.

Following Judd and Kenny's (1981) mediation analyses, regression of the personal/ability measure (the mediator) on personalization (the independent variable), showed this relationship to be highly reliable ( $F(1, 38) = 47.43, p < .00, R^2 = .56$ , standardized beta =  $-.75$ ). Regression of prejudice toward the out-group applicants on the personal/ability measure, with the independent variable simultaneously entered in the equation, showed that the personal/ability measure influenced prejudice ( $F(2, 37) = 18.16, p < .00, R^2 = .50$ , standardized beta =  $.33$ ). Finally, controlling for the personal/ability measure, the direct effect of the independent variable no longer remained significant ( $p > .05$ ). Supporting this mediational effect, Sobel's test of the change in beta was reliable ( $z(38) = -4.16, p < .001$ ).

We also examined whether ability attribution alone mediates the effect of manipulated personalization on prejudice. Regressing ability attributions for out-group success on manipulated personalization showed no direct link between personalization and ability attributions ( $F(1, 38) = .67, p > .05$ ). Therefore, as was the case for subjective personalization and friendliness, we conclude that it is the combination of both subjective personalization and ability attribution that (partially) mediates personalization's effect on prejudice.<sup>1</sup>

## Discussion

In this first study examining the attributional consequences of personalized interaction, we assessed the impact of (a) personalization and (b) information about the success of the out-group or failure of the in-group not only on the evaluations of new out-group and in-group applicants, but more important, the attributions made to explain their success. Our

findings provide further confirmation of the ameliorative effects of personalization on prejudice toward new out-group members (e.g. Ensari & Miller, 2002) but more critically, they extend prior work by examining intergroup attributions. When an out-group was successful, personalization was an effective tool for reducing out-group derogating attributions. Thus, we add further support to the view that the Mutual Intergroup Differentiation (Brown & Turner, 1981; Hewstone & Brown, 1986) and Personalization (Brewer & Miller, 1984) models contain complementary ingredients for improving intergroup relations.

### *In-group failure*

By comparison with the differential effects seen under out-group success, we found similar favorability toward in-group and out-group members in the in-group failure conditions. We argue that negative feedback on in-group performance poses a threat, which leads in-group members to reduce their prejudice toward out-group members. Whereas our results are consistent with some previous findings (e.g. Ellemers et al., 1997; Mullen et al., 1992), they contradict others (e.g. Fein & Spencer, 1997; Jetten, Spears, & Manstead, 1999). For example, Mullen et al.'s (1992) meta-analytical review of 42 studies assessing ethnocentrism found a weak in-group bias effect when the in-group was judged to be of lower status. On the other hand, Fein and Spencer (1997) found that threat increases prejudice toward out-group members in an attempt to maintain self-image. This inconsistency can be explained with a number of moderating factors, such as stability, legitimacy, permeability, group identification (Mummendey, Kessler, Klink, & Mielke, 1999), group status (Ellemers et al., 1997; Jetten et al., 1999), and commitment (Ellemers et al., 2002). Another important moderating factor is whether threat is individual-based (negative feedback to one's self) or group-based (negative feedback to one's in-group). Individual-based threat, as in the case of Fein and Spencer's studies (1997), is perceived as directed toward one's self, and thus provokes self-image restoration and increases self-esteem.

Group-based threat, on the other hand, as in the case of the present study, leads to social mobility responses when the in-group's low status is seen as legitimate (Branscombe, Spears, Ellemers, & Doosje, 2002).

Additionally, however, one might wonder why under the in-group failure condition there were no personalization effects with respect to evaluations or attributions about the out-group applicants. In the in-group failure condition the participants faced direct evidence of general in-group failure. This evidence was likely to arouse in-group protective motivations. In turn, such motivation may have contributed to the tendency of those in the in-group failure condition to evaluate the in-group no less favorably than the out-group. One way in which such protective motivation may have produced equivalent evaluations of the in-group and out-group applicants was by leading the in-group failure participants to suppress the beneficial effect of personalization that was seen in evaluations of the out-group applicants under conditions of out-group success. Unfortunately, an assessment of the different processes that personalization might induce under out-group success by comparison with in-group failure was compromised in this experiment by the absence of a no-feedback control condition. In retrospect, this was an important omission. Had we had a no-feedback condition we would have expected to find beneficial personalization effects in the evaluations of out-group applicants.

**Ability versus luck and task attributions** Our outcomes showed that when personalized interaction occurs with typical out-group members whose category identity is salient, it will have a strong impact on internal (ability) attributions. Yet external (luck and task) attributions failed to be affected under these conditions. There are two plausible explanations for this finding. First, people prefer dispositional attributions to explain behaviors of the actor because such explanations are available and are simple (Fiske & Taylor, 1984; Tversky & Kahneman, 1973). It takes more effort and imagination to think of the situational factors that might function as explanations (Tversky & Kahneman, 1973). By

contrast, it is easier to invoke the dispositions that are generally associated with the out-group in the past (Fiske & Taylor, 1984; Tversky & Kahneman, 1973). Second, people tend to perceive dispositions rather than environmental causes as the explanation of group differences (Jones & Davis, 1965; Tajfel, 1978). This occurs in part, because environmental causes are complex and diffuse (LeVine & Campell, 1972). Consequently, dispositions are seen as the main cause of hostility from the out-group (Allport, 1954; LeVine & Campell, 1972). For these reasons, our key manipulated variables may have affected the dispositional explanations of the acts performed by out-group members, but not external reasons for their outcomes. To eliminate reliance on cognitively simple heuristics, and to activate the use of situational attributions, it may be necessary that the experimental manipulations encourage thoughtful analysis (Tetlock, 1985). That is, participants may need to be given incentives for careful reasoning about the attributional problems posed to them. It may be necessary to make them feel accountable or responsible for the judgments they express (Tetlock, 1985) in order to promote reliance on situational rather than dispositional explanations for causes of others' behavior.

**Effort attributions** Our manipulations had no effects on effort attributions. This may reflect the ambiguity inherent in the interpretation of effort attributions, as illustrated by both meta-analytic (Ensari & Miller, 1998) and empirical studies (Feldman-Summers & Kiesler, 1974; Hewstone, Gale, & Purkhardt, 1990). Effort attributions can be internal, but both unstable and controllable (Weiner, 1974). Therefore, people can explain away the success of a disliked out-group member by claiming that he or she had to try very hard (Hewstone, 1989), or favor the in-group by attributing its failure to temporary lack of motivation (Taylor & Jaggi, 1974). Consider, for example, attributions made by male and female students for a highly successful male or female physician whose speciality was either pediatrics or surgery and who did or did not take on his or her father's



practice. Male participants attributed the female's success more to her greater motivation or to her having had an easier task. Females perceived the male physician as having had an easier task than the female and they also attributed greater motivation to the female than the male physician (Feldman-Summers & Kiesler, 1974). From this perspective, the failure to find any effects with effort attributions may reflect their interpretational ambiguity.

### ***Mediational analyses***

Most important, perhaps, was the outcome of our mediational analyses. We had previously argued that manipulated personalization does not merely induce subjective perceptions that the out-group partner had disclosed unique, personal, and unexpected attributes. It also induces simultaneously two conceptually distinct effects: a sociability attribution (friendliness) and a competency attribution (ability).

Although attributions made to explain an out-group's outcomes have long been conceptually invoked to account for (mediate) prejudice toward that out-group, no prior work has provided direct evidence that supports this process. In our mediational analyses we examined the effect of subjectively experienced personalization in combination with the ability attributions that participants made to explain the general success of the out-group in solving problems similar to those comprising the cooperative problem solving task. Recall that participants were unable to solve these puzzles without aid from the confederate. As part of the manipulation of out-group success versus in-group failure, however, those in the out-group success condition were told that members of the out-group had typically solved 80% of such puzzles correctly. Our mediational analyses showed that the ability attributions that participants made to account for this out-group success, when combined with the subjective effects of personalization, partially mediated the reduced prejudice toward successful job applicants who were out-group members. Note further that by using the attributional measure based on the manipulation of out-group success/in-group failure and not

the attributions specifically made to account for the out-group job applicants' success in obtaining their university job, we thereby made the attributions in our mediational analysis conceptually and methodologically independent of the prejudice measure. Noteworthy is that attributions alone did not mediate reduced prejudice. Only when they were combined with the subjective effects of personalization was prejudice reduced. Thus, these results extend the conceptual importance of personalization in reducing prejudice.

The effectiveness of personalization in mediating reduced out-group prejudice rests in part on the subjective perceptions of friendliness that were elicited in combination with the personalization-induced perception that the self-disclosed information was unique, personal, and unexpected. Thus both mediational paths in the model received support. These results are consistent with other work showing out-group friendship to have an ameliorative effect on intergroup prejudice (Levin, van Laar, & Sidanius, 2002; Pettigrew, 1997; Pettigrew & Tropp, 2000). At the same time, it is also possible that the reliable mediational effects found for the composite personal/friendliness and personal/ability variables, but not in the separate analyses of personalization, friendliness, and ability attributions, merely reflect the greater reliability obtained by adding the latter two measures to the personalization composite.

### **Conclusion**

The present study adds further evidence for a model proposed in Ensari and Miller (2002) that integrates the category-based (Hewstone & Brown, 1986; Hewstone & Lord, 1998) and the personalization models (Brewer & Miller, 1984). In this integration, personalization, typicality, and salience were shown to be useful components for augmenting the ordinary benefit of cooperative settings in reducing out-group bias and increasing the benefits of intergroup contact. The present study extends this model to intergroup attributions. Though we did not experimentally manipulate typicality and salience in the present study, the results are

consistent with the view that high levels of these three factors (i.e. personalization, typicality, and salience) are critical for reducing out-group derogating attributions.

One of the objectives of our investigation was to go beyond the mere documentation of beneficial effects of personalization on bias and attributions, and to identify the mechanisms that may help explain these effects. The mediational model we proposed suggests that the relationship between personalization and out-group bias is due to the subjective effects of personalization in combination with both subjective friendliness and subjective ability attributions. This model not only facilitates our understanding of the psychological processes that are responsible for the beneficial effects of personalization, but also throws light on the long noted, yet not fully explored relationship between attributions and bias. To our knowledge, we provide the first mediational evidence showing that the subjective effects of personalization, in combination with subjective ability attributions, partially explain reduced out-group prejudice. Although other mediators may also warrant study, we believe that we have isolated some of the major processes that underlie the prejudice-reducing role of personalization.

## Note

1. In an additional set of analyses we examined a model that reverses the causal path by viewing prejudice as mediating the perceptions of subjective personalization and friendliness, and the outcome on the subjective personal/ability measure. The outcomes showed no support for these reverse causal models. Thus, the outcomes of these backward mediational analyses counter the viability of a model that sees prejudice as the mediator of subjective personalization effects and ability attributions.

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